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An

Inaugural Essay

on

Icterus, or Jaundice.

Presented

To the Medical Faculty

of

The University of Pennsylvania.

For

The degree of Doctor of Medicine.

By

Martin Philips

of

South Carolina.

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Icterus presents a singular and striking peculiarity to the medical philosopher, and although farther advanced in this department of medical science than the ancients, the modern pathologist is still totally unable to unfold to us the proximate cause of this disease.

As the disease is usually presented to us it first appears by a yellowish tinge of the tunica conjunctiva, which gradually extends on every part of the body, involving as many affirm, the whole economy, — the secretions being coloured, some assert that even the milk is tinged; bones cartilages, and the whole internal organs bear the same livery.

It is ushered in with langour, depression of spirits, negligence of motion, sense of weight, or oppression in the praecordia, nearly always attended with a torpidity of the bowels, stools of an ash, white, or greyish colour, indicating absence of bile; urine scanty, of a saffron, or brown colour, tinging linen when dipped in it; sometimes attended with violent pain in the stomach, with nausea, and vomiting, pulse full and resisting, head affected with pain or fulness; more or less fever ensues, and cramps

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The only necessary symptoms are the yellow tinge of the skin, want of bilious matter in the intestines, and an excess in the urine; but even these are liable to vary, for the tunica conjunctiva is at times only affected, cases are on record where only particular parts became coloured, one where only half of the body was tinged, and that so exact "that only one half of the nose was coloured. The stools instead of indicating a deficiency of bilious fluid, have sometimes an excess of it, and are also laxative.

The vision we are told is affected, so that objects appear of a yellow colour; that this is sometimes the case we will not doubt, there is too much respectable authority to establish the truth of it. Dr Good relates an instance, in himself whilst a student, he says "The first suspicion I entertained of my being affected with jaundice was from the yellow tinge with which every object around me appeared to be arrayed". But many authors equally respectable declare that they have never met with a case of the kind although in the habit of making particular enquiries on this point, — others deny that it ever occurs; the vision is said to

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be at times affected also with dimness, and may become double or inverted.

Except the difference in colour the black or green jaundice does not materially differ from that already laid down; it occurs oftener in men than women, & generally in the middle or advanced stage of life, though now and then even in the young it is slow in its progress, and not so violent. The three colours are to be found occasionally in the same individual. The disease when occurring from calculi, passing through the ducts is attended with pain about the pit of the stomach often extremely intense, circumscribed to a small part, "so small as to be covered with a finger", and attended by vomiting often very violent. The patient is unable to lie in the recumbent position, and will be found sitting up with the body bent forward.

In this way the disease continues for a greater or less space of time, and sometimes "ceases suddenly and spontaneously" owing to the passage of the calculus.

The patient will then remain quite free from pain or inconvenience, until another calculus is

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Of the numerous opinions with regard to the causes of the disease, that of absorption of the biliary fluid into the general circulation from obstruction in the ducts, or a disorganization of the liver is most prevalent. The divers ways in which this obstruction is said to take place may be stated to be — 1st by mechanical pressure, 2nd by some affection of the ducts themselves, diminishing in size their calibre: under the first may be classed — A. — Gallstones, hydatids, worms, and preternatural viscidity of the bile, which causes an obstruction internally — B. By external pressure, as from neighboring parts. Under the 2nd — inflammation of the coats of the ducts; and spasm.

There are innumerable other causes exciting the disease; not unfrequently it occurs from an injury done to some external part as bites of a snake, dog, cat, &c have produced it, "concussion from the explosion of a bomb" produced it almost instantaneously. Facts are not wanting to show that it is brought on, sometimes by violence done to the lining membrane of the stomach, arsenic for instance has been known to produce it, and ingesta are often, at least an

exciting cause, — numerous cases are to be found where it occurred from the different passions. Hysterical females, hypochondriacs, and criminals are said to be very susceptible to attacks of this disease, and also others who are troubled by the cares and crosses of life. Dram drinkers are said to be peculiarly liable to it. Pregnant women are often the subjects of this singular disease. Neither age, sex, nor condition in life escape; the pucklings the grey haired, rich & poor all may be brought under its influence.

Some writers assert that both sexes are liable to its attacks; others on the contrary affirm that one or the other is more disposed, it seems very reasonable to say that females are more prone to its appearance, as its affects are most frequently observed on the sedentary.

Of the diagnostic symptoms it is needless to say any thing, the phenomina are so peculiar that a mistake can scarcely be made.

A larger majority of recent cases can generally be easily managed; if of a long standing our best efforts will be often

frustrated; when met with in children it is easily cured: but when occurring in the aged and infirm, death is the almost inevitable consequence; our strictest attention, and best directed efforts will be too often unavailing; the disease bidding defiance to our skill, will pursue its own course, and death too frequently will be the result; at best these cases are slow in recovery.

Attacks from gallstones are said to be rarely fatal, as also those met with in the hypochondriacal, hysterical, or pregnant patients; in the latter the disease is said to cease on delivery, some think this rather doubtful. Cases of green, or black jaundice are rarely curable. When there exists dropsical swellings, convulsions coma, apoplexy, or purging of dark grumous blood, danger exists and cure doubtful. We may generally predict a cure when the pulse, skin, and evacuations become more natural, and bearings of head disappear. "Certain evacuations as hemorrhage from the nose, or rectum, or by perspiration, or from the kidnies, or bowels, are reported to be critical, promptly resolving the disease in some cases."

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giving our opinions as regards the termination of the case, one error of judgement will do more injury to the young practitioner than many correct predictions will repair.

In post mortem examinations various are the appearances presented to us,- at one time not the slightest morbid change can be discoverable, at another the whole of the internal organs are nearly one "mass of disease". The liver is at times found extensively deranged, at other times perfectly sound. Gall stones are sometimes found, of various sizes, number & form in the liver, gall ducts, and not unfrequently in gall bladder itself. The stomach and duodenum often betray marks of inflammation, and as often are totally exempt from any appearance of disease. Cerebral lesions are sometimes found.

Even in the present improved state of pathology the proximate cause lies in obscurity, and yet rests a mere hypothesis. Some have attributed it to our absorption of cystic bile into the circulation, No farther proof of the fallacy of this opinion is wanting than a case reported by Richter, where the gallstones had not existed, but to further

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strengthen an objection, may be adduced an experiment of Portal who tied the cystic duct of an animal without jaundice following.

Equally satisfactorily is it proved that it is not owing to an absorption of either kind of bile - for 1st Cases are reported where it took place too suddenly, as following concussion from a bomb "almost instantaneously" - and directly after a paroxysm of fear, grief, or jealousy. 2nd It does not follow when a quantity of bile is exposed to the absorbents. 3rd The stools do not invariably indicate a want of bile, - "very often the bowels act as under ordinary circumstances". 4th The peculiar bitter taste of bile is not discoverable in any of the fluids. 5th The liver and internal organs are found after death free from any derangement. Powell says, it "never accompanies those immense secretions of bile" in cholera. The jaundiced hue is often an attendant on the fevers of warm climates; in these there is not a superabundant secretion of bile as has been generally supposed. This seems to be fairly proved in an inaugural essay by a late

graduate, (Dr Waddell - of Georgia)

The proximate cause by another has been attributed to "the secretion of bilious matter into the sub-cuticular tissues, in consequence either of the resorption of bile, into the general circulation, or of the retention of its elements in the mass of blood in case of hepatic torpor", another gives it as depending "upon a deficient, or altogether suspended secretion of bile" the "colouring matter becomes redundant". "It is therefore thrown out of the circulation, into the bladder" &c "and thus symptoms of jaundice are produced".

(We will not here repeat anything against "the resorption of bile" in the first.

If the jaundiced hue depended on the "colouring matter of the bile", by "the retention of its elements" we would be induced to look for it in all those diseases where there is a deficient or no secretion of bile — but dysentery is said to depend on "torpor of the liver with an engorged state of the portal circulation" yet an thors inform us not of jaundice as an attendant. In hepatitis we have "nausea and bilious vomitings generally an icteric hue of the albuginea & skin; urine changed with bile; and bowels costive" —

here we have the most prominent symptoms of jaundice & attended with bilious vomitings. We would ask if this disease depended on retained elements why are the vessels which contained these elements not colored before the retention? they previously contained the same elements, and in the same quantity.

And how can this doctrine explain those anomalous cases in which particular parts of the body are affected? much more unsatisfactorily will it explain the disease when the bowels act as under ordinary circumstances, and when bile is in excess. "The parent irritation of the chylopoietic viscera, which is very commonly, I suspect in the mucous tissue of the stomach or duodenum, and not the liver, is extended to the capillaries, and in consequence of the condition thus induced, changes are wrought in the serous fluid circulating through them, characteristic of the icteric affection." In this manner does our highly distinguished professor of the practice account for it. Professor Chapman farther says - "it remains for those who are opposed to the views I have endeavored to sustain to point out the peculiar and distinctive character of jaundice" Altho we may not be able to point out

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the correct pathology, yet we sincerely hope it may be permitted us to differ with one so learned, and professing such an exalted station in our profession without being thought presumptuous.

We differ from Dr Chapman for many reasons some of which we will endeavour to adduce. We do not think it capable of explaining those sudden cases already cited, & numerous others of a similar import, one case of it occurring in the person of a King grew so sudden as while reading a letter.

Those who have seen post mortem examinations of this disease affirm that the internal organs are often found perfectly healthy, and although the stomach and duodenum do often bear marks of phlogosis, yet as often are they found quite free; but if the proximate cause was irritation of the stomach we would expect to find it oftener. "Ubi irritatio, ibi affluxus"

That the disease often follows injuries of the stomach we cannot for one instant doubt, in Dr Chapmans very excellent paper he says "In two ~~cases~~ instances of poisoning from arsenic which came under my notice the skin as well as the serous exhalations in the cavities were deeply tinged"

"twice have I witnessed it brought on by ingesta".

Certain it is that inflammation does exist, yet may not this be an effect as often as it is a cause? From the very great sympathies existing between the stomach, and every other part of the system, strange indeed would it appear if no inflammation existed.

Whether the peculiar appearance in this disease depends on a change in the globules of the blood - from the colouring matter of the bile - or on some other cause, is as yet a point involved in much doubt and obscurity - we are more inclined to the former, but the manner in which this is affected is entirely conjectural.

Dr Chapman in his course of reasoning when contending that fevers are the same disease only varying in type - says - "they arise from the same cause, occur in the same season of the year, alternate with each other, and are cured by the same remedies". - Now if this be true in fevers, the same course of reasoning must hold good every where else and it will only be necessary to show that such is

time with jaundice and the nervous diseases.

We do not desire to call this a nervous disease, but not satisfied with the present adopted pathology, and believing the nervous system to be intimately complicated, we desire investigation, and that alone.

We found our belief of the influence of the nervous system in this disease as Dr Chapman has done his of Epilepsy – 1st from the causes – blows – affections of the mind, &c – inducing a flow of blood to the brain. 2nd from the symptoms languor, depression of spirits, cramps, constipation, clay coloured stools – all of which are prominent symptoms in both – jaundice and the nervous diseases. 3rd – from dissection – cerebral lesions often exist – if asked why not of more frequent occurrence? we will barely observe, that in some of those strictly nervous diseases, no appearance of any disease has been discoverable. And 4th "In severe cases it has been observed to prove fatal by the supervention of apoplexy". It will be necessary to show 1st that the nervous system is often, if not invariably affected; proof of this has been already advanced in those cases resulting from a

direct or an indirect effect produced on the brain. "Delirium more common in hepatitis, than in any other of the phlegmasial affections except phrenitis" – Andral says lesions of the brain are of frequent occurrence.

2nd That secretion depends on the nervous system:– no difficulty exists here, passions and emotions of the mind are often causes of the suppression of the menses. – "A lady while menstruating received a fright from a fall, and an immediate cessation followed". Another case – of a young lady during the period of menstruation was alarmed at the sight of a snake a cessation was the direct consequence. Saliva will flow at the sight of food, Numerous others can be adduced – one of the most satisfactory & conclusive is the following experiment – if all the nerves to an organ be divided, leaving the blood vessels untouched its secretory action cease immediately.

(Some experiments described in one of the late European journals (by Professor Mayer) it would seem that the nervous apparatus influenced the colour and consistency of the blood; his experiments were performed on the par vagum nerve, – after

the death of the animal, which sometimes was a consequence of these experiments the blood, found in the auricles, ventricles, pulmonary veins, and arteries, was solid and white, he says improperly called polypi; in drawing his conclusions from these experiments, he says, that he is of the opinion that a ligature to the par vagum nerve influences the colour and consistency of the blood to a greater or less extent according to the length of time the animal lived after the experiment was performed; furthermore he makes mention in one of his experiments that the urine was so deeply tinged, that it would tinge linen yellow, in another the bowels were constipated. Now if a ligature to this nerve would cause such an obvious result on the blood, would it be too great a stretch of reason, to say — one effect on the nerves which have a direct influence over the capillaries would change the fluids circulating through them? for the capillary tissue is under a more direct influence of the nervous apparatus than any other tissue of the system.

Professor Mayer concludes that the fluidity of the blood depends on nervous action, yet he does not think his experiments

are conclusive, or positive.

Although yellow fever depends on miasmata, and is an inflammatory disease - yet so far as colour, it may be said to be somewhat analagous - refer to post mortem examinations in this disease - Dr Cartwright "found the ganglia - their investing membranes, and the nerves which issue from them more particular the semi-lunar ganglia, coeliac, and solar plexuses of a scarlet, and sometimes of a black colour".

The black colour of the blood which at times is found in typhus fever must owe its disorganized condition to that of the nerves.-

The dark colour which is sometimes seen in epilepsy, altho' attributed to nitrate of silver, seems to depend on the nervous system.

The sudden changes of black hair to white, from grief, fright and other affections of the mind has the same cause.

Fright has been known to turn the skin black - if the nervous mass can be so influenced it would not seem strange if the jaundice have depended on the same.

From the treatment we draw an argument in our favour - Dr Thatcher in speaking of the use of cicuta in this

disease, says, "When the dose is gradually increased until its effects are distinctly felt in the head - the yellowness of the skin and eyes, in most instances begin to disappear by the second day and the disease is soon removed".

No disease has produced more discussion with regard to its causes and nature than jaundice, and none can show a longer list of boasted specifics - one remedy after another has been recommended and adopted, but experience, the touch stone of truth, has unfortunately consigned them all to oblivion, and the disease remains to be treated on the broad principles of practice. Our practice cannot be expected to be uniform but unfrequently symptoms must direct our choice of remedies, as our first object should be to direct our efforts to the cause, if known, by removing this a cure is affected.

Should an occurrence of the disease be not attended by pain or disturbance of general health we are advised not to use any remedies, but to leave the cure to nature.

But should pain and disturbance of the system be present we should evacuate the alimentary canal, and the best ~~remedies~~

manner is by an emetic: then to administer purgatives; of this class calomel (all powerful) will be found best; afterwards keep the bowels gently open by mild purgatives, or laxatives.

It has been adduced in proof of this latter plan being serviceable, that a spontaneous diarrhoea often supervenes and a cure is the consequence, but it appears rather doubtful whether art can effect that benefit which nature brings about — nature doing more benefit, than the mere evacuation itself — for there exists previously an affection of the fluids which the mere administration of a cathartic cannot produce; we are not averse to the administration of cathartics. but to the loose manner of recommending them, and in bringing such a reason to prove often a wrong side of a question.

Emetics and purgatives are said to act by making an impression on the stomach and intestines, sympathetically affecting the liver, it matters not whether the action of the liver be increased or diminished, the same sovereign remedy calomel is to be resorted to, which is known to be a very powerful excitant of this organ.

If the patient be of a full plethoric habit and febrile, venesection

will be eminently serviceable, and a repetition will often be found necessary.

Should much pain exist Opium is recommended to be given in substance, as the tincture will be liable to be thrown up, the stomach being irritable - topical bloodletting will also be found very beneficial, and would seem preferable to the Opium in this state of the stomach, but experience lands the practice. If topical blood letting cannot be obtained blisters may be safely resorted to, (after the general excitement is reduced) & the warm bath is highly advantageous.

When spasm, or obstruction of gall ducts exists, our remedies must be more vigorous, and addressed more directly to the remote cause, we are advised to resort to copious venesection, sometimes ad deliquium, to the warm bath, topical bleeding by leeches, or cups, to vesication, to anodyne enema & emetics".

In those cases where obstruction is supposed to exist from calculi, some affirm that the administration of emetics is not only doubtful, but often hazardous, adding to the irritation already existing on the other hand another declares that "there is no

means of pushing forward a biliary concretion, that is more probable than the action of vomiting, which is said to act on the full gall bladder, by the exertion of the parts called into play by the act of vomiting – caution seems to be necessary in their administration: which of these modes may be correct we cannot say but will venture on the safe side, & follow our distinguished professor, who prescribes emetics unless counter indicated by "much pain, fever and general excitement" such existing "emetics are to be avoided.

We are advised next to resort to a certain class of remedies which are said to possess the power of dissolving; although this is now known to be, but an assertion, they are given, and often with an evident beneficial result. The best of this class in present use are the alkalies – and of these castile soap considered best, united with rhubarb, or aloes, or calomel. Many others have been recommended, – potash mixture, ether, – oil of turpentine, dandelion, & acids, of these the nitric is best.

A pretty constant impression on the alimentary canal some recommend – a justly celebrated writer says "a continued exhibition

of aperient medicines under the impression of thus affording a substitute for the natural stimulus of the bile has been productive of serious inconvenience".

Many other remedies have been recommended, and not a few have met with merited neglect – in most cases few will ever be wanted, and often a proper regulated diet will effect a more rapid cure, with less trouble to the physician, less expense and injury to the patient. Moderate exercise – on horseback preferable if health and strength will permit, – cheerful company and a proper regimen will very often effect more than the apothecary with a parade of all his drugs.

Not much need be said of the Black, or Green jaundice, all of our remedies should be addressed to making the patient as comfortable as practicable, palliatives are our only remedies "saline cathartics will palliate – but is incurable"

And lastly the "yellow gum" or jaundice of infants may generally be removed by a dose of castor oil, or some mild purgative. As a recurrence of the disease is not infrequent the patient should guard against all exciting causes.

During the past summer and autumn having had every facility afforded us of gaining medical knowledge not only from the 'Medical Institute', but also from the practice of the alms house, (the latter is due to the marked kindness of Drs Nott & Shew their resident physicians) allowed to attend the resident physicians in their daily rounds through the wards, of watching the course of disease, observing the impression of remedies - marking changes and different plans of treatment; also having several opportunities of seeing the difference in the issue of the plans of treatment now in vogue - disturbing & physiological - we must give our feeble testimony in favour of the latter, trials were often instituted, and to every appearance clearly in favour of this plan:- Reason appears to be in its favour and with such a judicious practitioner as Dr Samuel Jackson practice cannot fail of adding lustre to the 'Broussai plan of treatment".